

Safety Driven Optimization Approach for Automotive Systems

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Résumé en anglais	<p>In this paper, we propose an approach for system design and architecture optimization driven by safety and cost constraints. It consists of an architecture synthesis and mapping approach that takes into account the safety constraints in the ISO 26262 context. It allows, at one hand, to reach a system preliminary architecture by choosing the best component that reduce the overall cost. On the other hand, it leads to a mapping that respects the safety constraints related to safety levels and to dependent failures.</p> <p>We use exhaustive and genetic algorithm based approaches for the optimization. The use of these two approaches depends on the size of the considered problem. We demonstrate that these approaches can be used efficiently to reach an optimal design.</p>
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